National Institute of Environmental Health Sciences

Temperatures and cyclones strongly associated with economic production in the Caribbean and Central America

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Abstract:

Understanding the economic impact of surface temperatures is an important question for both economic development and climate change policy. This study shows that in 28 Caribbean-basin countries, the response of economic output to increased temperatures is structurally similar to the response of labor productivity to high temperatures, a mechanism omitted from economic models of future climate change. This similarity is demonstrated by isolating the direct influence of temperature fromthat of tropical cyclones, an important correlate. Notably, output losses occurring in nonagricultural production (-2.4%/+1 °C) substantially exceed losses occurring in agricultural production (-0.1%/+1 °C). Thus, these results suggest that current models of future climate change that focus on agricultural impacts but omit the response of workers to thermal stress may underestimate the global economic costs of climate change.

Source: http://dx.doi.org/10.1073/pnas.1009510107

Resource Description

Communication: ☑

resource focus on research or methods on how to communicate or frame issues on climate change; surveys of attitudes, knowledge, beliefs about climate change

A focus of content

Communication Audience: ☑

audience to whom the resource is directed

Policymaker, Researcher

Exposure : ☑

weather or climate related pathway by which climate change affects health

Extreme Weather Event, Food/Water Security, Temperature

Extreme Weather Event: Hurricanes/Cyclones

Food/Water Security: Agricultural Productivity

Geographic Feature: ☑

resource focuses on specific type of geography

Ocean/Coastal

Geographic Location:

resource focuses on specific location

Non-United States

Non-United States: Non-U.S. North America

Health Impact:

specification of health effect or disease related to climate change exposure

Health Outcome Unspecified

Mitigation/Adaptation:

mitigation or adaptation strategy is a focus of resource

Adaptation

Model/Methodology:

type of model used or methodology development is a focus of resource

Cost/Economic

Population of Concern: A focus of content

Population of Concern:

populations at particular risk or vulnerability to climate change impacts

Workers

Resource Type:

format or standard characteristic of resource

Research Article

Timescale:

time period studied

Time Scale Unspecified

Vulnerability/Impact Assessment:

resource focus on process of identifying, quantifying, and prioritizing vulnerabilities in a system

A focus of content